

and bonding or welding in the Schiff system, in order to simplify the device housing by replacing the cast epoxy connector with a metallic housing, and using a weld bond to provide firm attachment of the barrel.

This rejection is respectfully traversed for the following reasons.

5 As discussed in the present specification and as also discussed in Applicants' responses during previous prosecution, conventionally the so-called "header" or electrode lead-receiving portion of an implantable stimulation device has been made of plastic or silicone, with metallic components embedded therein and electrical connections between those
10 metallic components and the circuitry contained in the metallic portion of the stimulator housing. The stimulator disclosed in the Schiff reference is an example of such a conventional arrangement.

 As also discussed in the present specification, it is known to make the stimulator housing completely of metal, however, conventionally this has
15 proven to be the exception rather than the rule, because of many difficulties associated with the use of a completely metallic housing, not the least of which are insulation problems, which also have been discussed during earlier prosecution, and the issue of how to attach or mount the female connector portion in such a metallic housing.

20 Applicants therefore respectfully submit that a person seeking to design an implantable stimulator with a metallic housing, or at least a metallic header, would not start with a conventional arrangement of the type described in Schiff, having a silicone or plastic header, and try to modify it in order to overcome the aforementioned problems which are exclusively related to
25 stimulators having a metallic housing or a metallic header. In fact, the Hawkins et al. reference is evidence of the non-obviousness of Applicants' solution, rather than the obviousness thereof. The Examiner has focused on the Hawkins et al. reference because it discloses using a weld bond to provide a firm attachment of the barrel to the housing, however, independent
30 claim 7 of the present application requires the use of a metallic *tubular* member having opposite first and second tube ends that are respectively disposed in opposite first and second openings of first and second walls of the

metallic housing, and further explicitly states that the tubular member is substantially *continuous* between the first tube end and the second tube end. This is best seen in Figures 4 and 5 of the present application wherein it can be seen that the element 21 is a "true" tube. Except for the openings 24 and 25, the tube 21 is continuous between the opposite ends that are connected to the metallic housing. This inventive solution not only overcomes the aforementioned insulation problems, but allows attachment to the metallic housing by means of welding or bonding.

The structure disclosed in the Hawkins et al. reference, although making use of welding or bonding, *is not a tube*. As can be seen in Figure 5 of the Hawkins et al. reference, for example, the female socket is composed of a number of successive parts that must be joined together, many of which, such as elements 58 and 60, are insulating. There is no substantially continuous tube disclosed anywhere in the Hawkins et al. reference. There is not even an embodiment in the Hawkins et al. reference that makes use of openings in opposite walls of the metallic housing or header so that the use of a substantially continuous tube would even be meaningful.

This is evidence of the difficulty of arriving at a simplified and operable structure for the female connector socket in the context of the use of a metallic housing or header. It is true that the Schiff reference, as shown in Figure 3, illustrates a structure which could be argued to be a substantially continuous tube, however, it must be remembered that this is in the context of a plastic or silicone header, and the insulating problems which would arise if the structure shown in Figure 3 of the Schiff reference were attempted to be used in a metallic housing or header have already been extensively discussed. Those insulation problems would not disappear if one simply substituted the end portions disclosed in the Hawkins et al. reference for the end portions of the tubular structure shown in Figure 3 of the Schiff reference. This is evidence of the thinking of those of ordinary skill in the art that, if a metallic housing or metallic header is to be used, the assembly for the female socket should not be a substantially continuous tube, but should be composed of separate components joined together, some of which are insulators. This is

why one cannot simply begin with a structure intended for use in a silicone or plastic header, and make arbitrary changes therein in accordance with teachings related to female socket assemblies for use with a metallic header, and assume that the structure used in the plastic or silicone header can
5 otherwise remain unchanged.

The substantially continuous tube disclosed in the Schiff reference can be used only because the header is composed of silicone or plastic. Simply because the Hawkins et al. reference shows how one end of a female socket assembly can be bonded to a metallic housing or header does not mean that,
10 if the Hawkins et al. assembly were somehow embodied in the Schiff assembly, the housing in the Schiff reference could then arbitrarily be made metallic. The aforementioned insulation problem still would not be overcome in such a combination, and there is no teaching in any of the references of record as to how those problems can be solved while still making use of a
15 substantially continuous tubular member in the socket assembly.

The subject matter of claim 7, therefore, would not have been obvious to a person of ordinary skill in the art based on the teachings of Schiff and Hawkins et al., nor would the subject matter of claims 6-13 depending therefrom.

Claims 16 and 17 were rejected under 35 U.S.C. §103(a) as being unpatentable over Schiff and Hawkins et al., further in view of Peers-Trevarton. The Peers-Trevarton reference has been extensively discussed during previous prosecution. Claims 16 and 17 embody the subject matter of claim 7 therein, from which they depend, and therefore the above arguments
20 regarding the teachings of Schiff and Hawkins et al. are applicable to claims 16 and 17. Even if the Schiff/ Hawkins et al. combination were further modified in accordance with the teachings of Peers-Trevarton, therefore, the subject matter of claims 16 and 17 still would not result. Claims 16 and 17, therefore, would not have been obvious to a person of ordinary skill in the art
25 based on the teachings of Schiff, Hawkins et al. and Peers-Trevarton.
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All claims of the application are therefore submitted to be in condition for allowance, and early reconsideration of the application is respectfully requested.

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